

I CLAIM:

1. A spare tire carrier for a vehicle having a rear gate mounted for pivotal movement between open and closed positions, said spare tire carrier comprising:

5 a first leg member having a first end pivotally mountable to the vehicle, said first leg member having mounting structure on which a spare tire is mountable, and

10 a second leg member having a first end pivotally connected to a second end of the first leg member and a second end pivotally mountable to the rear gate for maintaining a substantially parallel relationship between the first leg member and the rear gate during pivotal movement thereof, at least
15 one of the first and second leg members being adjustable in length for shortening the length thereof thereby offsetting sagging of said rear gate upon mounting the spare tire on the mounting structure.

2. The spare tire carrier of claim 1 wherein said rear gate, said first leg member, and said second leg member are respectively mounted for pivotal movement about substantially vertical axes.

3. The spare tire carrier of claim 1 wherein said rear gate (6) and said first leg member (7) are respectively mountable to said vehicle for pivotal movement about substantially vertical first (10) and

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5 second (11) axes and said second leg member (9) is respectively mountable to said rear gate (6) and to said first leg member (7) for pivotal movement about substantially vertical third (13) and fourth (17) axes.

4. The spare tire carrier of claim 3 wherein the length of said at least one of said first and second leg members (7,9) is adjustable between at least one of the respective pair of the second (11) and fourth (17) axes and of the third (11) and fourth (17) axes.

5. The spare tire carrier of claim 4 wherein said adjustable one of said leg members is said second leg member (9) between said third (13) and fourth (17) axes.

6. The spare tire carrier of claim 3 wherein the distance between the second and third axes (11,13) is less than the combined distance between the second and fourth axes (11,17) plus the distance between the third and fourth axes (13,17).

7. The spare tire carrier of claim 6 wherein the adjustable length of said one leg member adjusts said combined distance.

8. The spare tire carrier of claim 3 further including third and fourth leg members (7',9'), said third leg member (7') being mountable to said

5 vehicle for pivotal movement about said second axis (11), said fourth leg member being mountable to said
gate for pivotal movement about said third axis (13), said third and fourth leg members further
being mountable for pivotal movement relative to
each other about said fourth axis (17) with said
10 first and third leg members (7,7') substantially
parallel to each other and with said second and
fourth leg members (9,9') substantially parallel to
each other.

9. The spare tire carrier of claim 1 wherein
said spare tire is mountable to said spare tire
carrier by at least first and second members (49, 51)
mounted for slidabile movement relative to each other
along a fifth axis (50).

10. The spare tire carrier of claim 9 wherein said first and second members (49, 51) are concentrically mounted relative to each other.

11. The spare tire carrier of claim 9 wherein said fifth axis is substantially horizontal.

12. The spare tire carrier of claim 9 wherein said spare tire is secured to at least one of said first and second members (49, 51).

13. The spare tire carrier of claim 1 further including a stop member (29) mounted on said rear gate, said stop member being spaced from said spare

5 tire carrier when said rear gate is in said open
position and said stop member abutting at least one
of said leg members (7,9) when said rear gate is in
said closed position.

14. The spare tire carrier of claim 13 wherein
said stop member abuts said first leg member (7)
when said rear gate is in said closed position

15. In a vehicle having a rear gate mounted to
the body of the vehicle for pivotal movement about a
first substantially vertical axis (10) between an
open position permitting access to the interior of
5 the vehicle through an opening defined at least in
part by portions of the vehicle body and a closed
position preventing access through said opening,
said gate having a free end spaced from said first
axis (10), the improvement including an arrangement
10 to selectively raise the free end of said gate
relative to the opening in said vehicle to properly
align said gate including the free end thereof with
the opening in said vehicle.

16. The improvement of claim 15 wherein the
arrangement includes first and second leg members
(7,9), said first leg member (7) being mountable to
said body for pivotal movement about a second
5 substantially vertical axis (11), said second leg
member (9) being mountable to said gate (6) for
pivotal movement about a third substantially
vertical axis (13), said first and second leg

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10 members (7,9) being further mountable to each other
about a fourth substantially vertical axis (17)
wherein the length of at least one of said leg
members (7,9) is adjustable between at least one of
the respective pair of the second and fourth axes
(11,17) and of the third and fourth axes (13,17) to
15 selectively raise the free end of said gate relative
to the opening in said vehicle to properly align
said gate including the free end thereof with the
opening in said vehicle.

17. The improvement of claim 16 wherein said
adjustable one of said leg members is said second
leg member (9) between said third and fourth axes
(13,17).

18. The improvement of claim 16 wherein the
distance between the second and third axes (11,13)
is less than the combined distance between the
second and fourth axes (11,17) plus the distance
5 between the third and fourth axes (13,17).

19. The improvement of claim 18 wherein the
adjustable length of said one leg member adjusts
said combined distance.

20. The improvement of claim 16 further
including third and fourth leg members (7',9'), said
third leg member (7') being mountable to said body
for pivotal movement about said second axis (11),
5 said fourth leg member being mountable to said gate

for pivotal movement about said third axis (13),
said third and fourth leg members further being
mountable for pivotal movement relative to each
other about said fourth axis (17) with said first
10 and third leg members (7,7') substantially parallel
to each other and with said second and fourth leg
members (9,9') substantially parallel to each other.

21. A spare tire carrier for a vehicle, said
vehicle having a rear gate and body with portions
defining an opening for said gate, said gate being
mounted to said body for pivotal movement about a
5 first substantially vertical axis (10) between an
open position permitting access to the interior of
the vehicle through said opening and a closed
position preventing access through said opening,
said spare tire carrier including:

10 first and second leg members (7,9), said first
leg member (7) being mountable to said body for
pivotal movement about a second substantially
vertical axis (11), said second leg member (9) being
mounted to said gate (6) for pivotal movement about
15 a third substantially vertical axis (13), said first
and second leg members (7,9) being further mounted
to each other about a fourth substantially vertical
axis (17), said spare tire being mountable to said
spare tire carrier wherein the length of at least
20 one of said leg members (7,9) is adjustable between
at least one of the respective pair of the second
and fourth axes (11,17) and of the third and fourth

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axes (13,17) to adjust the vertical alignment of said spare tire and said spare tire carrier.

22. The spare tire carrier of claim 21 wherein said adjustable one of said leg members is said second leg member (9) between said third and fourth axes (13,17).

23. The spare tire carrier of claim 21 wherein the distance between the second and third axes (11,13) is less than the combined distance between the second and fourth axes (11,17) plus the distance between the third and fourth axes (13,17).

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24. The spare tire carrier of claim 23 wherein the adjustable length of said one leg member adjusts said combined distance.

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25. The spare tire carrier of claim 21 further including third and fourth leg members (7',9'), said third leg member (7') being mountable to said body for pivotal movement about said second axis (11), said fourth leg member being mountable for pivotal movement about said third axis (13), said third and fourth leg members further being mountable for pivotal movement relative to each other about said fourth axis (17) with said first and third leg members (7,7') substantially parallel to each other and with said second and fourth leg members (9,9') substantially parallel to each other.

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26. The spare tire carrier of claim 25 wherein the alignment of said fourth substantially vertical axis (17) to a true vertical axis is adjustable.

27. The spare tire carrier of claim 26 wherein the alignment of said fourth axis (17) is adjustable by adjusting the length of said one of said leg members.

28. The spare tire carrier of claim 21 wherein said spare tire is mountable to said spare tire carrier by at least first and second members (49,51) mounted for slidable movement relative to each other
5 along a fifth axis (50).

29. The spare tire carrier of claim 28 wherein said first and second members (49,51) are concentrically mounted relative to each other.

30. The spare tire carrier of claim 28 wherein said fifth axis is substantially horizontal.

31. The spare tire carrier of claim 28 wherein said spare tire is secured to at least one of said first and second members (49,51).

32. The spare tire carrier of claim 21 further including a stop member (29) mounted on said gate, said stop member being spaced from said spare tire carrier when said gate is in said open position and said stop member abutting at least one of said leg
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members (7,9) when said gate is in said closed position.

33. The spare tire carrier of claim 32 wherein said stop member abuts said first leg member (7) when said gate is in said closed position

34. In a vehicle having a rear gate mounted by at least one pivot member to the body of the vehicle for pivotal movement about a first substantially vertical axis (10) and an object such as a spare tire being supported in part on said gate including said pivot member therefor and in part on the body of the vehicle at a location spaced from said pivot member for said gate, a first portion of the weight of the object being supported by said gate including said pivot member therefor and a second portion of the weight of the object being supported by said body at said spaced location, the improvement including an arrangement to selectively adjust the relative amounts of the first and second portions of the weight of the object respectively being supported by the gate including the pivot member therefor and by the body of the vehicle at said spaced location.

35. The improvement of claim 34 wherein the arrangement includes first and second leg members (7,9), said first leg member (7) being mountable to said body for pivotal movement about a second substantially vertical axis (11), said second leg

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10 member (9) being mountable to said gate (6) for pivotal movement about a third substantially vertical axis (13), said first and second leg members (7,9) being further mountable to each other about a fourth substantially vertical axis (17) wherein the length of at least one of said leg members (7,9) is adjustable between at least one of the respective pair of the second and fourth axes (11,17) and of the third and fourth axes (13,17) to selectively adjust the relative amounts of the first and second portions of the weight of the object respectively being supported by the gate including the pivot member therefor and by the body of the vehicle at said spaced location.

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36. The improvement of claim 35 wherein said adjustable one of said leg members is said second leg member (9) between said third and fourth axes (13,17).

37. The improvement of claim 35 wherein the distance between the second and third axes (11,13) is less than the combined distance between the second and fourth axes (11,17) plus the distance between the third and fourth axes (13,17).

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38. The improvement of claim 37 wherein the adjustable length of said one leg member adjusts said combined distance.

39. The improvement of claim 35 further including third and fourth leg members (7', 9'), said third leg member (7') being mountable to said body for pivotal movement about said second axis (11),
5 said fourth leg member being mountable for pivotal movement about said third axis (13), said third and fourth leg members further being mountable for pivotal movement relative to each other about said fourth axis (17) with said first and third leg members (7, 7') substantially parallel to each other and with said second and fourth leg members (9, 9') substantially parallel to each other.

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